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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,243	07/10/2003	Tomomi Yoshizawa	03384/LHNDH	4634

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EXAMINER

SHAH, MANISH S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/618,243

Applicant(s)

YOSHIZAWA ET AL.

Examiner

Manish S. Shah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-11 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-4 & 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takemoto et al. (# US 2001/0025588A1) in view of DeYoung et al. (# US 6761788).

Takemoto et al. discloses an ink jet recording method including the steps of providing ink to an ink receiving sheet ([0081], see claim: 18-20), wherein ink includes fine resin particles (resin emulsion) ([0045]-[0058]), a water soluble dye ([0033]), water ([0060]) and organic solvent ([0061]-[0062]), wherein the particle diameter of the resin particle is 10 to 400 nm ([0058]). They also disclose that the minimum film forming temperature (MFT) of the fine resin particle in the ink is 50 degree or above ([0048]).

Takemoto et al. differs from the claim of the present invention in that (1) the ink receiving sheet includes a support, and a porous ink receiving layer having pores provided on the support, and ink and ink receiving sheet satisfy the  $|D_{L10} - D_{M50}| \leq 170$ . (2)  $D_{L10} - D_{M50}$  is not less than 0, more preferably not less than 20 nm and not more than 65. (3) The ink-receiving layer contains fine resin particle, wherein resin particle is

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thermoplastic resin. (3) The roughness of the ink-receiving layer is not more than 10 nm.

DeYoung et al. teaches that to get the glossy effect on image, ink-receiving sheet includes a support, and a porous ink-receiving layer having pores provided on the support (see Abstract). They also disclose that the 50% of pore having a pore diameter from 30 to 300 nm, so the  $|D_{L10}-D_{M50}| = 400-300 = 100$ , which satisfies the  $|D_{L10}-D_{M50}| \leq 170$  and the  $D_{L10}-D_{M50}$  is not less than 0, more preferably not less than 20 nm and not more than 65 nm ( $10-30=-20$ ) (column: 4, line: 1-10). They also disclose that the ink-receiving layer contains fine resin particle, wherein resin particle is thermoplastic resin (column: 4, line: 1-30). They also disclose that the roughness of the ink-receiving layer is not more than 200 nm (column: 6, line: 20-38).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the recording medium of Takemoto et al. by the aforementioned teaching of DeYoung et al. in order to have a recording medium with high glossiness and good graininess, which give high quality printed image.

### ***Allowable Subject Matter***

2. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The polydispersity index (PDI) of particle diameter distribution of fine resin particles in the ink is from 0.1 to 0.3,  $PDI = (D_{L90} - D_{L10}) / D_{L50}$ .


### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Manish S. Shah  
Examiner  
Art Unit 2853

  
MSS  
10/15/04